Written testimony of the

Biotechnology Industry Organization

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"Tax Reform and the U.S. Manufacturing Sector"

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The Biotechnology Industry Organization (BIO) represents more than 1,100 innovative biotechnology companies, along with academic institutions, state biotechnology centers, and related organizations in all 50 states. Entrepreneurs across the biotech industry are conducting groundbreaking science and are deeply invested in solving the problems that our nation and world face. Biotech companies are searching for new medicines to treat devastating diseases, developing advanced biofuels and renewable chemicals to reduce our dependence on foreign oil, and improving agriculture to feed a growing world.

The biotechnology industry is a powerful economic growth engine, directly employing 1.61 million Americans with an average salary of $82,697 and supporting an additional 3.4 million jobs.[1] Biotech employees are scientific researchers, lab technicians, factory workers, and support staff in all 50 states.

In order to protect these jobs and support biotech research and development, Congress should promote innovation in tax reform. A simpler tax code, lower corporate rate, and competitive territorial tax system will allow the U.S. to lead the world in biotech development. The tax code should also support innovation through specific tax structures and incentives for pre-revenue, pre-tax R&D companies as they continue to create high-quality American jobs, stimulate long-term economic growth, and bolster America's competitiveness on an increasingly global stage.

International Competitiveness

As it currently stands, the U.S. corporate tax code impedes America's ability to innovate and to compete with other industrialized countries on the global stage. Since 1988, the average OECD corporate income tax rate (excluding the U.S.) has dropped 19 percentage points while the U.S. federal rate has increased by one point. In 2011, the average OECD corporate tax rate was 25.1%, nearly 15 percentage points lower than the U.S. combined rate of 39.2%. With Japan recently reducing its rate, the U.S. has become the industrialized nation with the highest statutory corporate tax rate. A burdensome and complicated tax code does little to promote life-changing innovation.

The United States is in danger of falling behind, in part because of a worldwide corporate tax system that stifles growth. America's competitors have largely moved to territorial tax systems, imposing domestic taxes only on income generated within their borders. Meanwhile, the U.S. continues to have a burdensome worldwide system out of step with the

[1] Battelle/BIO State Bioscience Industry Development 2012. Battelle Technology Partnership Practice, June 2012.

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rest of the world. Every other G-7 nation has moved to a territorial system, as have 26 of the 34 countries in the OECD. Both Japan and the United Kingdom recently made this change, recognizing the value of a competitive corporate tax structure.

With international competitors gaining ground in the biotech industry, the U.S. cannot afford the competitive imbalance faced by domestic firms forced to comply with worldwide taxation. Moving to a territorial system is a critical step towards creating a competitive tax code. Freeing up over one trillion dollars that is currently trapped overseas due to the inefficiencies of the tax code will boost economic growth and capital investment. Congress should bolster domestic innovation by instituting a territorial tax system that allows U.S. innovators to compete effectively and fairly.

Promoting Investments in Innovation and Life-Saving Research

In addition to a lower corporate rate and competitive territorial tax system, tax reform must go further than "broadening the base and lowering the rate." By appropriately incentivizing innovation through the tax code and eliminating barriers to international competitiveness, Congress has the opportunity to support and inspire breakthrough discoveries and bolster economic growth. BIO supports a U.S. tax code that recognizes innovation as a crucial part of the 21st century American economy.

For health-focused biotech companies, the tax code takes on increased import due to their unique life cycle and development timeline. It takes more than a decade and over $1 billion to develop a lifesaving biotechnology treatment. Further, of every 1,000 compounds discovered at the pre-clinical stage, only one will make it through the FDA approval process. The entire extended development period is undertaken in the context of tremendous risk and without the benefit of product revenue, so all operating capital must come from investors. These investor-backed companies depend on substantial private – not government – investment to provide the necessary funding for their capital-intensive research, development, and manufacturing. And yet, the current set of incentives for investors in the tax code do not do enough to stimulate biotech investment.

It is essential that investors in start-up businesses have a reason to invest early in a company's life cycle and hold that investment. Structures which allow them to utilize a small company's tax assets that it cannot currently use or expand their options for liquidity would provide incentives to invest. A reformed tax code should include incentives for investors in high-risk industries, including preferential capital gains treatment, pass through structures to utilize certain tax assets, and investment credits. Congress should provide important incentives and structures to stimulate an innovation-led economy.

Congress has also historically recognized the importance of innovation at the companies themselves. Provisions like the R&D Credit are examples of the tax code providing incentives for innovative job creators. However, because most biotechs are in a loss position, these provisions do not do enough to stimulate innovation. Small companies that are pre-revenue are unable to immediately utilize these incentives; instead, they are accumulated as deferred tax assets for use later to offset future profits. These deferred assets do not incentivize much-needed investments in pre-revenue companies because they do not provide immediate or short-term tax benefits to investors or to the companies themselves.

While a lower corporate rate will be helpful in the event that these companies become profitable, it will not stimulate investment in the near term. More should be done to support innovation by growing companies, including allowing them to either immediately utilize their

deferred tax assets to attract investment or maintain their value during transactions. The unique nature of innovative companies with very long-term product cycles must be taken into account in tax reform, and the tax code should reflect the needs of these pre-revenue capital-intensive businesses.

Under the current tax system, companies are unable to use the tax code to attract investors, prevented from taking advantage of innovation and R&D incentives from a loss position, and hamstrung by a high corporate rate when they finally do become profitable. Congress should reform the tax code to make the corporate rate globally competitive while also providing important incentives for the development and manufacturing of innovative products.

Role of the Tax Code in Driving Investment in Manufacturing of Renewable Chemicals, Biobased Products, and Advanced Biofuels

BIO's Industrial and Environmental Section represents 85 leading companies in the production of advanced biofuels, renewable chemicals, biobased products, and other sustainable solutions to energy and environmental challenges. BIO member companies apply industrial biotechnologies to help resolve important challenges in synthesizing new products, whole cell systems and other biologic processes to improve the range of manufacturing and chemical processes. BIO members include the leaders in developing new crop technologies for food, feed, fiber, and fuel.

In the industrial and environmental biotechnology sector, tax policy is particularly important to emerging technologies that have not yet achieved commercial scale. This is especially true for emerging technologies that must compete with well-established incumbent technologies that have benefitted from longstanding support within the tax system. The growing portfolio of emerging technologies for the conversion of renewable biomass to advanced biofuels, renewable chemicals and biobased products is such an example.

By combining America's leading positions in agriculture and manufacturing innovation, industrial biotechnologies have outstanding potential to create jobs and economic growth, stimulate the U.S. bioeconomy, enhance America's energy security and improve the environment. Emerging technologies in renewable chemicals, biobased products, and advanced biofuels are ready for commercial deployment, but are in need of capital for first-of-a-kind biorefinery construction.

Commercialization of these technologies is especially challenging because the markets they seek to enter are dominated by mature fossil-based incumbents with a long history of federal government support. In the case of biofuels, Congress has recognized the important role of tax policy in overcoming market barriers. Tax incentives for first generation biofuels have played a key role in reducing the nation's dependence on imported petroleum, mitigating fuel price volatility and providing consumer choice at the pump. The next generation of cellulosic and other advanced biofuels offers even greater benefits. Congress has again recognized the societal benefits of these technologies in providing targeted tax incentives for cellulosic and other advanced biofuels even as first generation tax incentives have been phased out. But the first commercial cellulosic biorefineries are only just coming online this year. Comprehensive reform of tax policy must ensure that the tremendous progress in advanced biofuels commercialization is not thwarted by a heavy new tax burden.

In substituting domestic, renewable biomass feedstocks for traditional fossil-based chemical feedstocks, renewable chemicals and biobased products offer the same wealth of public

benefits as advanced biofuels, with particularly strong potential for domestic job creation and revitalization of U.S. manufacturing. A recent report estimates that the global sustainable chemical industry will grow to $1 trillion, with the potential for 237,000 direct U.S. jobs and a trade surplus within the chemical sector.[2] The report finds that, through the development of the U.S. renewable chemicals and biobased products industries, the U.S. has the opportunity to reclaim significant U.S. manufacturing jobs that have been lost to other nations in recent decades.

But because most of these technologies have only just emerged, the tax code does not yet provide incentive for the domestic manufacture of these highly promising alternatives. Providing a tax credit for the production of renewable chemicals through the application of industrial biotechnology in the U.S. will promote investment in innovation and the development of a robust domestic renewable chemicals industry. In addition, extending and modifying the advanced energy projects credit to include renewable chemicals and biobased products will promote domestic manufacturing and create jobs. To realize the tremendous potential these technologies represent to revitalize U.S. manufacturing, comprehensive tax reform must foster private investment in this space.

Closing Remarks

The current tax code is complicated and expensive to administer and comply with. Further, temporary tax rules are always in danger of expiring and result in extreme uncertainty for businesses trying to plan for their growth. Companies planning their development pipelines and investors considering biotech investments need to know what they can expect as they move through the development process. Combined with a highest-in-the-world corporate tax rate and ineffective innovation incentives, the U.S. tax code does not do enough to stimulate biotech research and development.

The U.S. biotechnology industry remains committed to developing a healthier American economy, creating high-quality jobs in every state, and improving the lives of all Americans. Federal tax policy that recognizes the special demands placed on biotech companies and other highly innovative industries will speed the development of products to vastly improve the lives of Americans and people around the world. By recognizing the importance of innovation and the economic potential of the biotech industry, Congress can incentivize further development, create jobs, and improve America's economic health.

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[2] "Biobased Chemicals and Products: A New Driver of U.S. Economic Development and Green Jobs." http://www.bio.org/sites/default/files/20100310_biobased_chemicals.pdf